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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/550,197	09/21/2005	Young-Taek Sul	P57672	7327

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EXAMINER
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WERNER, JONATHAN S

ART UNIT	PAPER NUMBER
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3732

MAIL DATE	DELIVERY MODE
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06/20/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/550,197	<b>Applicant(s)</b> SUL, YOUNG-TAEK	
	<b>Examiner</b> JONATHAN WERNER	<b>Art Unit</b> 3732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 7, 11, 13, 17, 19 and 24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 7, 11, 13, 17, 19, 24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### DETAILED ACTION

1. This action is in response to Applicant's amendment received 3/26/08.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 7, 11, 13, 17, 19 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cuilleron (FR 2610512 A) in view of Hansson et al. (US 5,588,838). Cuilleron discloses a cylindrical implant (i.e. Figure 5) with helical threads (i.e. 2b), said threads bearing a continuum of micro-patterns (i.e. 2c) that increase the exposed surface area of each thread (see Figure 7). Cuilleron also shows that implant threads can include inclined flanks have a continuum of micro-patterns thereon as shown clearly in Figure 4, said micro-patterns as shown having a polygonal cross-section. Examiner notes that the threads (i.e. 1c) shown in Figure 4 comprise a series of recesses and protrusions incised thereon which form the aforementioned micro-patterns (i.e. triangular shaped patterns 1f, also representative of ridges). Furthermore, Examiner points out that Figure 4 also shows that each screw thread comprises crests (i.e. the free distal end of each thread) and roots (i.e. proximal base portion of each thread). The flanks (i.e. inclined sides of each thread) connect the crests with the roots. Lastly, because the polygonal cross-section of the micro-patterns can be triangular, Figure 4

demonstrates how their polygonal outline can appear open at one side (i.e. between crests of adjacent triangles) when viewed on a cross-sectional plane. Cuilleron further discloses that the micro-patterns located on the threadings can have a profile other than a triangular profile (i.e. see attached EPO automated translation, page 3, lines 1-3). Cuilleron, however, does not explicitly disclose that said micro-patterns can be arcuate in shape. Hansson teaches an implant that utilizes a micro-pattern that have an arcuate design, whereby the spaces in between each bead are identical grooves (i.e. microbeads; column 2, lines 34-37). Therefore, it would have been obvious to one having ordinary skill in the art at the time of Applicant's invention to use arcuate shaped micro-patterns in the threads of Cuilleron in order to avoid, or at least minimize, stress-concentrations in the bone tissue around said microthreads as taught by Hansson. Furthermore, Examiner notes that such an arcuate shape helps to avoid, or at least minimize, additional cutting into the bone of the patient during insertion, such that the patterns can be relied on instead for providing a region for bone-implant integration to occur. Additionally, although Cuilleron fails to disclose a specific distance between each micro-pattern, Hansson teaches that the distance between adjacent threads should be approximately 0.2 mm (200  $\mu$ m). Therefore, it would have been obvious to one having ordinary skill in the art at the time of Applicant's invention to separate each micro-pattern by 150  $\mu$ m since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable values involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

### ***Response to Arguments***

3. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection. Further, Examiner points out that Applicant has failed to provide any reason as to why an arcuate micro-pattern is preferred to the other disclosed embodiments of a micro-pattern as set forth in Applicant's own specification (i.e. a micro-pattern having a polygonal cross-section as shown by embodiments of Figures 1, 2 and 4), nor has Applicant revealed that such an arcuate pattern solves any particular problem that cannot be solved by a pattern having a polygonal cross-section. It should also be noted that Applicant remarks that the bead shaped micro-pattern of Hansson is not representative of an arcuate pattern. However, it is the Examiner's position that a bead-shape is representative of a ball or correspondingly round/circular object. Hence the bead-shaped micro-pattern of Hansson is arcuate since it is round/circular.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Please refer to included form PTO-892 for all additional pertinent prior art related to a dental implant comprising threads that have an arcuate cross-section. Namely, Levisman (US 6,315,564) teaches such threads.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JONATHAN WERNER whose telephone number is (571)272-2767. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cris Rodriguez can be reached on (571) 272-4964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Melba Bumgarner/  
Primary Examiner, Art Unit 3732

/Jonathan Werner/  
Examiner, Art Unit 3732

6/14/08